

Perspectival generation in/within the *Sala della Pace*: broadening the *view field* of spatialised images.

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Variations of this essay have been presented at the Society of Architectural Historians, Australia and New Zealand (SAHANZ) Conference in Sydney (2003), at the Spring Graduate Research Conference at the Royal Melbourne Institute of Technology (RMIT) in Melbourne (2003), and at School of Geography, Planning, and Architecture at The University of Queensland in Brisbane (2003).

abstract

It is everyday experience to look at a picture on a wall, (or on a computer screen) from a position that is out of alignment with its perspective, and then make a mental adjustment so as to allow for and ignore the distortion which results. To understand the limits and problem of this compensation it is necessary to look at works where there is an explicit attempt to relate the space of an image and the space in which the image exists. One such exemplar is the *Sala della Pace*, painted by Ambrogio Lorenzetti in 1338-40. The *Sala della Pace* may be of particular value today in helping us understand and evaluate the rapidly developing capacity of digital technology to represent dense visual and spatial information. Through Lorenzetti's amalgam of multiple zones of extromissive generation within the images of the *Sala della Pace*, Lorenzetti's work suggests a potential compositional technique that subverts the reduction of spatial representation to a singular point of perspectival generation by broadening the *view field* in which to receive and construct multiple spatialised images. It is the aim of this paper to explore spatial concepts in Lorenzetti's painting that may inform the way in which we conceptualise the spatial representation of both real and fictive space in/within images.

Current knowledge concerning the relation of space and image, are relatively unchanged from Filippo Brunelleschi's demonstrations of linear perspective in 1420.¹ Prior to Brunelleschi's systemisation of linear perspective's spatial technique, artists generally understood spatial affect and perspective in painting through a *Giottoesque* doctrine of intuition and exploration.² However, unlike the rigorous one point perspectives espoused through Brunelleschi's method, the *Sala della Pace* (painted by Ambrogio Lorenzetti in 1338-40,) has a much broader range of viewing positions from which its spatial illusion is effective. The spatial structure upon which contemporary conceptions of visual representation are fundamentally grounded, will greatly benefit from a reappraisal of concepts of space and image in the *Sala della Pace*, and its broadening out of what we might call, in analogy to the acoustics of concert halls, the *sweet spot* of vision; or what I will later define as the image's *view field*.³

As an Architectural Historian, my interest in the *Sala della Pace* concerns the way in which the mural is spatialised relative to a moving, viewing subject with concrete spatial positions. As this viewing subject moves within the space enveloped by the *Sala della Pace*, the images unfold, revealing a temporal sequence of spatial possibility. My interest in the *Sala della Pace* is not primarily concerned with its relation to Art History, but specifically in the theoretical concepts that may be expunged from the mural's spatial conception and composition. These spatial concepts may aid in the proposing of new theories concerning the digital representation of space. Furthermore, these concepts will challenge the reductive structure of conventional computer-generated spatial representation, and its predetermined and concentrated Brunelleschian viewpoint.

This hypothesis will be formulated through an exegesis of Joseph Polzer's essay, "Ambrogio Lorenzetti's *War and Peace* Murals Revisited", John White's book, "The Birth and Re-Birth of Pictorial Space", and finally Jack Greenstein's seminal essay, "The Vision of Peace: Meaning and Representation".⁴ In addition to a scholarly critique, a diagrammatic analysis and proposition will be formulated, based primarily upon Jack Greenstein's observations, that demonstrate Ambrogio Lorenzetti's mastery of

perspective, spatial composition, and Lorenzetti's effective maximization of an images' spatial effect.

The *Sala della Pace* consists of three separate, yet inter-determinate images within its overall composition, one image depicted upon each of the eastern, western, and southern walls of the room (fig.01). The remaining northern wall yields a window to the market piazza below. The representations of two diametrically opposed cities face each other across the room, from east to west. One image depicts a prospering peaceful city, whilst the other depicts a city affected by war. On the southern wall, the allegorical personifications of a fictive governing council observe into, and beyond the cityscapes flanking them on either side, through the window adjacent into the urban-scape of Sienna beyond. Upon entering the room, the *Allegory of Justice and Good Government* orates its allegory from the wall through which the viewer has just entered. Flanking the left (eastern) wall upon entering the room, is *The Peaceful City and its Contado*, whilst upon the right (western) wall, *The Wartorn City and its Contado* is imbued. Collectively, these images represent what Gibbs has called "a masterpiece of balance and even distribution, each having two parts, landscape or sky alternating with built-up settings and each side of the room concluding with landscapes."⁵

John White observes in "The Re-Birth of Pictorial Space", Lorenzetti's rendering of figure, movement, and light as evidence of a compositional nexus within the mural. White proposes that this compositional centre is located in the generative subject position of the *Peaceful City and its Contado*, approximately in the location where the ten maidens dance.⁶ White's aim in analysing the *Sala della Pace* mural is to reveal a representational doctrine that is specific to the Trecento, however his theory does not hold true to the mural in its entirety. Although the images of the *Wartorn City* and the *Allegory of Justice and Good Government* do adhere to such a compositional structure, the image of the *Peaceful City* depicts clear zones of both adherence and non-conformance to the radiating perspective schema, which question White's categorisation of the *Sala della Pace* as *Giottesque*.⁷

White's acclamation of the inferred radiative movement of the figures represented within the image of the *Peaceful City* is contradicted by the representation's actuality. I will later show that the figures are central to the composition, but for reasons other than those White gives. White is incorrect to think that the scene in which the maidens dance is also the location of the images' extromissive generation. The figures represented in the image of the *Peaceful City* do not uniformly radiate from White's compositional centre. The commune's citizens represented in the image effectively diminish in relative size, effecting a sense of depth and spatiality within the image, however there are specific locations of compositional contradiction. For example, the representation of the two gentlemen on horseback, disappearing behind a building to the rear of the ten dancing maidens, does not correlate in relative size laterally across the image. Similarly, the Shepherd in the lower right of the city is rendered in obvious disharmony to the woman whom is depicted walking towards him.

White further believes that the city is illuminated by a radiating light source, generated from the dancing maidens. This is largely supported by the image's rendering technique, however, the rendering of the city's gate-tower and city wall does not adhere to the unitary radiance inferred by White. White's affirmation of the ten dancing maidens' compositional importance has lead to a dramatic exaggeration of their true allegorical meaning. Light does not emanate from them, but most likely from a point immediately behind them. Observing the illumination effect upon both the gate-tower to the commune, and the building directly to its rear, it is clear that they are rendered with equal luminosity to surfaces directly adjacent to the light sources true origin. The location of illumination is specifically demonstrated by the depiction of the two gentleman riding upon horseback, disappearing behind the foreground imagery of the painting. Their rendered movement infers the existence of a hidden street or laneway. Light travels uninhibited along the length of this street, falling upon the gate-tower's façade. The illumination is not emanating from the ten dancing maidens, but from below the tower in the centre of the image's opening, directly to the rear of the dancing maidens.⁸ Although White insists upon the correlation between the perspectival generation of the scene, the representation of figurative movement, and the location

from which the image's illumination is generated, White's inditement of the maidens as the nexus of this claim does not hold true.

The dancing maidens are subject to a different representational structure than that applied to the piazza in which they dance. This is evident in both their distorted facial features, which implies a particular angle and direction of vision, and their enlarged scale relative to other figures represented in the street. This difference is significant within the image's overall composition, and can be accounted for relative to its relationship to the viewing subject beholding the mural.⁹ The maidens are the largest figurative representations within the image. Their size, relative to all other figurative representations, has a dominating effect upon the lateral and vertical layering of the image's composition, both drawing the observer's eyes towards their location, whilst simultaneously offering alternate visual paths radiating outwards from their centre.

It is important to note however that the ten dancing maidens are perceived as a unitary whole. Although they each yield their own individual and idiosyncratic characteristics, they are cognitively perceived as a collective form. The figurative representation of the ten dancing maidens is achieved through an organic rendering that is clearly differentiated, in terms of its primary geometric construction from that of the urban cityscape in which they dance. The cityscape composition is reduced to fundamental geometric primitives. These primitive geometric forms were rendered with a pre-determined viewing subject in mind; their viewing location was already known at the time of the painting's conception. The nature of the ten dancing maidens organic representation, and subsequent collective form, affords an affective dissolution of linear-geometry's prescriptive viewpoint. The cityscape form is less malleable, unyielding to the multiplicity of viewpoints that organic representation affords. The ten dancing maidens therefore appear to align to the picture plane from a multitude of viewing positions from within the *Room of Peace*, whilst the cityscape affords a singular viewpoint from which to achieve pictorial alignment.

John White has discussed the *Sala della Pace* in terms of its *Giottoesque* method of composition, which I have proven to be contradictory to the mural's factuality. Jack

Greenstein however, offers an alternative conception by critiquing Art History's categorisations of the mural as compositionally generated from within itself. That is to say, Greenstein believes the images are not solely generated through an internal extromissive method, as *Giottoesque* doctrine would imply, or through a common narrative or allegory. He proposes the location of a point of perspectival generation that exists outside of the generated image. Greenstein proposes that Lorenzetti had conceptualised a virtual viewing subject whose extromissive gaze generated the image of *The Peaceful City and its Contado* from within the frame of the *Allegory of Justice and Good Government*. Greenstein believes this generative viewing subject is the allegorical figure of *Peace*. Greenstein observes, "[t]he set of her eyes squarely within their sockets conjoins with her posture, placement and orientation to suggest that she directs her gaze, through actual as well as fictive space to the piazza in which the maidens dance."¹⁰ Greenstein attempts to demonstrate his proposition by photographing the image of the *Peaceful City* from upon a ladder, generating a photograph from the approximate subject position of the personification of *Peace*. From this elevated position, the mural attains the compositional delineation of a true perspective, aligning with the picture plane of the viewer. "[T]he picture plane [thus] functions as a transparent pane through which the Peaceful City is seen."¹¹

The resulting image, witnessed from the subject position of *Peace*, directly correlates to the *Trecento* conception of 'vision' as both the optical image created by the mind, and the physical and spiritual illumination fostered by medieval theories of vision and 'light'. The image is therefore the "object of [the] allegorical figure's sight."¹² The dualistic nature of vision and light as "a substance shining and radiating like the sun, which, when coupled with radiation from [an] exterior shining body, entirely completes vision,"¹³ resulted in Greenstein's conclusion that the image of the *Peaceful City* is illuminated by *Peace*'s extromissive gaze. The image witnessed by *Peace* is literally a 'vision of peace', that is not attainable by the corporeal councillors perceiving the image from their own subject positions within the space of the *Sala della Pace*.

In order to test, explore, and examine both Greenstein and White's claims, I created a three-dimensional computer model of the *Sala della Pace*. A digital image created from

the viewing position of *Peace*, overlooking *The Peaceful City and its Contado*, confirmed Greenstein's hypothesis (fig.04-05). From this subject position, the majority of the cityscape depicted within the image aligned with the picture plane. The image generated from this subject position highlighted several other compositional anomalies to both White and Greenstein's claims. As the image of *The Peaceful City and its Contado* distorts due to the change in perspective of the subject's new viewing position (from the subject position of *Peace*), the image's compositional centre becomes clear. From this position, the ten dancing maidens are subsequently positioned at the geometric and compositional centre of the image. The role of *Peace*, as the generating subject position of the *Peaceful City*, suggests an alternative conception of the ten dancing maidens compositional role to White's initial claims.

The angle of the maidens' gaze focuses downwards, towards the floor of the room. It is the only compositional form represented within the mural that directly engages with the space of the viewing subject. From this viewing position, the urban cityscape represented behind and around the maidens still remains distorted, unyielding to any alignment with the picture plane (fig.03). The image remains perceptually unclear, unwilling to conform to pictorial convention, as the subject position of the viewer never directly corresponds to the viewpoint of its perspectival generation (fig.02). The spatial composition of the ten dancing maidens and their cityscape scene, exemplify two different methods of spatial representation within the one composition. Similar to the empathetic embodiment fostered by the viewer to the 'everyday' activities represented within the scene, I believe that the dancing maidens collectively formulate an empathetic relationship between figure and viewer. This relationship corrodes the divisive segregation of fictive and real space fostered by the rendering of the built environment scenes within the image. The rendering of the maiden's collective organic form however, affords multiple-viewpoints within the room from which their image can be effectively spatialised by a viewer. They foster an empathy through both figurative correlation to the viewer, and through their apparent spatial engagement with the field in which the viewer occupies.

If Greenstein's observations are correct, then they act as a conceptual precedent upon which to suggest that subsequent images may be extromissively generated from other personifications within the *Sala della Pace*. It is my belief that *Peace* is not the only virtual viewpoint within the mural to which perspectival construction is generated. Several of the personifications within the *Allegory of Justice and Good Government* appear to gaze within the frame of the image itself, whilst others peer beyond the boundary of the frame's inferred constraint, beyond its fictive allegory into the real space occupied by the viewer.¹⁴ *Wisdom, Fortitude, Prudence, Magnanimity, Temperance, and Justicia*, engage with an undeclared subject, viewing through the image in which they are rendered into the composition of the two images adjacent. In addition to the initial computer image representing *Peace*'s extromissive gaze, computer generated images were also created from the subject positions of each of the afore mentioned personifications.

The alignment of the image's composition to the picture plane that Greenstein believes to exist only from the position of *Peace* is not true. The computer renderings generated imply that not only *Peace*, but each of the personifications within the *Allegory of Justice and Good Government* afford an alignment of the image's composition to the picture plane (fig.06). This conclusion would seem to make some sense of Ghiberti's interpretation and naming of the mural as *Peace and War*, rather than Greenstein's 'vision of *Peace*'.¹⁵ The images represent an allegorical guide to the governing council of Sienna.¹⁶ They depict the effects of good and bad governance upon the city and its countryside. Whilst the images of the *Wartorn City* and the *Allegory of Justice and Good Government* are generated by the extromissive vision of *Tyranny, Ben Coma* and *Justice* respectively, the image of the *Peaceful City and its Contado* however, is generated by the democratic vision of the fictive communal council represented within the image of the *Allegory of Justice and Good Government*. The images of the *Wartorn City* and the *Allegory of Justice and Good Government* are generated through *Giottoesque* doctrine; they are generated from within themselves. The *Peaceful City and its Contado* however, is generated from outside of its own frame. It is generated from within the space of the *Sala della Pace*, by the vision of the fictive communal council. It is not generated through a singular figure such as *Peace*, as proposed by

Greenstein. These two methods of spatial composition propose a new interpretation of the mural as an exemplar of the representation of space in/within an image.

Lorenzetti's manipulation of the painting's generative subject position, affords an alternative compositional realisation. When observing *The Peaceful City and its Contado*, the composition of the image is clearly divided into zones of varying perspectival generation. The cityscape, from the city wall to the ten dancing maidens, delineates the first compositional zone of the image. Just to the left of the ten dancing maidens, the cityscape distorts, bending away from the picture plane appearing to follow a hidden street or laneway to the contextual icons of Sienna, the *duomo* and its *campanile* in the far left hand corner of the image.¹⁷ Finally, and most interestingly, the dark foreboding building to the left of the ten dancing maidens, which overlooks the entrance to the inner sanctum of the commune, represents the final compositional segment of *The Peaceful City and its Contado*. The representation of this building is prominent due to its apparent failure to adhere to the representational frameworks executed throughout the majority of the *Sala della Pace* mural, either to the generative gaze of peace, or to *Giottoesque* compositional canon.

I believe that the image of this tower building is generated from the viewing position of *Justicia*. It is the visual image generated by *Justicia*'s extromissive sight. Observing the renderings created from each of the personifications in the *Allegory of Justice and Good Government*, it is clear that the image rendered from the subject position of *Justicia*, results in the alignment of the aforementioned building's façade with the picture plane. There is a strong correlation between *Justicia*'s generative image, and the functional and panoptic program associated with this building's typology within medieval society.¹⁸ Justice is enforced through the execution of judicial punishment within the tower's dungeons. *Justicia*'s generative gaze upon the perspectival formulation of the tower reinforces her role within the fictive communal council, as the ever-present locus of a panoptic power.

With the exception of Jack Greenstein, the scholarly debate concerning this *Sala della Pace* mural has failed to take into account the three-dimensionality of the space in

which the images exist; that is, the spatial relationship between the image-panels in the space of the room in which they are imbued. Art Historians have engaged primarily with a debate focusing upon the space represented in each of the *Sala della Pace* images themselves. The conventional method of criticism, specific to paintings of the *Trecento*, requires the reduction of the image to a near perfect subject position, perpendicular to the picture plane, and unobtainable in reality to any viewer. This technique of observation and objectification has in effect subverted any possibility of seeing the sophisticated generation and representation of space within the images.

It is not my intention to propose a re-reading of the history of Art, or indeed propose that many of these conceptual ideas were available to Lorenzetti at the time in which he painted the *Sala della Pace*. I am not an Art Historian. However, the compositional critique that Greenstein has proposed, and that I have continued, highlights some interesting anomalies in the historical categorization of Lorenzetti as a *Giottoesque* painter, and indeed as executing spatial methods that were generated with pre-Brunelleschian perspectival knowledge. Greenstein's observations, and that of my own, collectively propose that Lorenzetti may have applied a much more sophisticated method of spatial composition and perspectival technique than conventional Art History treatise would lead us to believe. Greenstein has catalyzed a discourse that reveals the engagement of inter-spatial relationships that exist in/within the mural itself. He has demonstrated that Lorenzetti conceptualized and created the *Sala della Pace* as a sophisticated composition of allegory and spatial technique, which is achieved through the manipulation of multiple viewpoints from which the image is conceived and received. My investigation extends Greenstein's argument by suggesting that a network of extromissive subject positions are evident, that collectively constitute its allegory. The images painted within the *Sala della Pace* are exemplars of spatial manipulation, executed through the conceptual understanding and mastery of perspective, and the broadened viewing position of the viewing subject, defined as the *view field* of the image (fig.07).

It is everyday experience to look at a picture on a wall, (or on a computer screen) from a position that is out of alignment with its perspective, and then to make a mental

adjustment so as to allow for, and ignore the distortion which results. To understand the limits and problem of this compensation it is necessary to look at works where there is an explicit attempt to relate the space of an image and the space in which it exists. Conventional images that are composed through the amalgam of several linear perspective-based images unravel as the spectator moves from one pre-determined subject position to another. This is clearly exemplified in the frescoes of the *Sala delle Prospective* in the Villa Farnesina (Baldassarre Peruzzi, 1516-18), and upon the nave vault of *San Ignazio* (Andrea Pozzo, 1691-94). Both examples dramatically distort as the viewing subject moves away from the pre-determined viewpoint from which they were conceived. Unlike the spatial composition of the *Sala della Pace* images, the frescoes within the *Sala delle Prospective* and *San Ignazio* do not yield a multi-positional *view field* capable of maintaining the images' effective spatialisation. The image is only spatialised from one specific location. They are stereotypical exemplars of a methodology of spatial construction that still effects the way in which images are spatialised today.

The development of 'image-rich' virtual environments and 'media-saturated' built environments in the Twenty-First Century has catalysed a critique concerning the relationship between 'real' viewing subjects, and 'virtual' viewed objects that are translated and mediated through images. The role of the image as a spatial device currently relies upon the inter-relationship between the viewing subject and the viewed object, which are conventionally represented through the application of linear perspective. Every computer-aided-design package and three-dimensional visualisation tool available is predicated upon linear perspective. It is the fundamental compositional construct used in the spatialisation of images. Its conception and construction assumes the existence and location of a pre-determined viewing subject. In order to conform to the doctrine of linear perspective, the viewing subject must assume the pre-determined subject position in real space in order to receive the image and the generative framework in which its spatialisation occurs. Images created through such conventional methods, foster a limited and pre-determined viewpoint in which to receive the image.

Recent technological developments within architecture concerning the application of pictures upon the surfaces of buildings, has catalysed critical discourse concerning the spatial capacity of images and their conceptual role when applied as 'architectural material'.¹⁹ Similarly, the recent social acceptance of Virtual Reality space as a normative spatial structure, has afforded a re-conceptualisation of the way in which images are similarly applied as sophisticated spatialisation devices. The effect and affect of images used in Virtual Reality-based spatial environments, and the spatial application, conception, and execution of these images within real space relies upon a re-positioning and conceptualisation of the image. Through Lorenzetti's amalgam of multiple zones of extromissive generation, his work suggests a potential compositional method that avoids the reduction of spatial representation to a singular point of perspectival generation. Lorenzetti's spatial techniques afford a potential broadening of the *view field* in which to receive and construct multiple spatialised images within both real and fictive space. He has re-questioned the importance of understanding the conceptual abstraction of representing space in/within images.

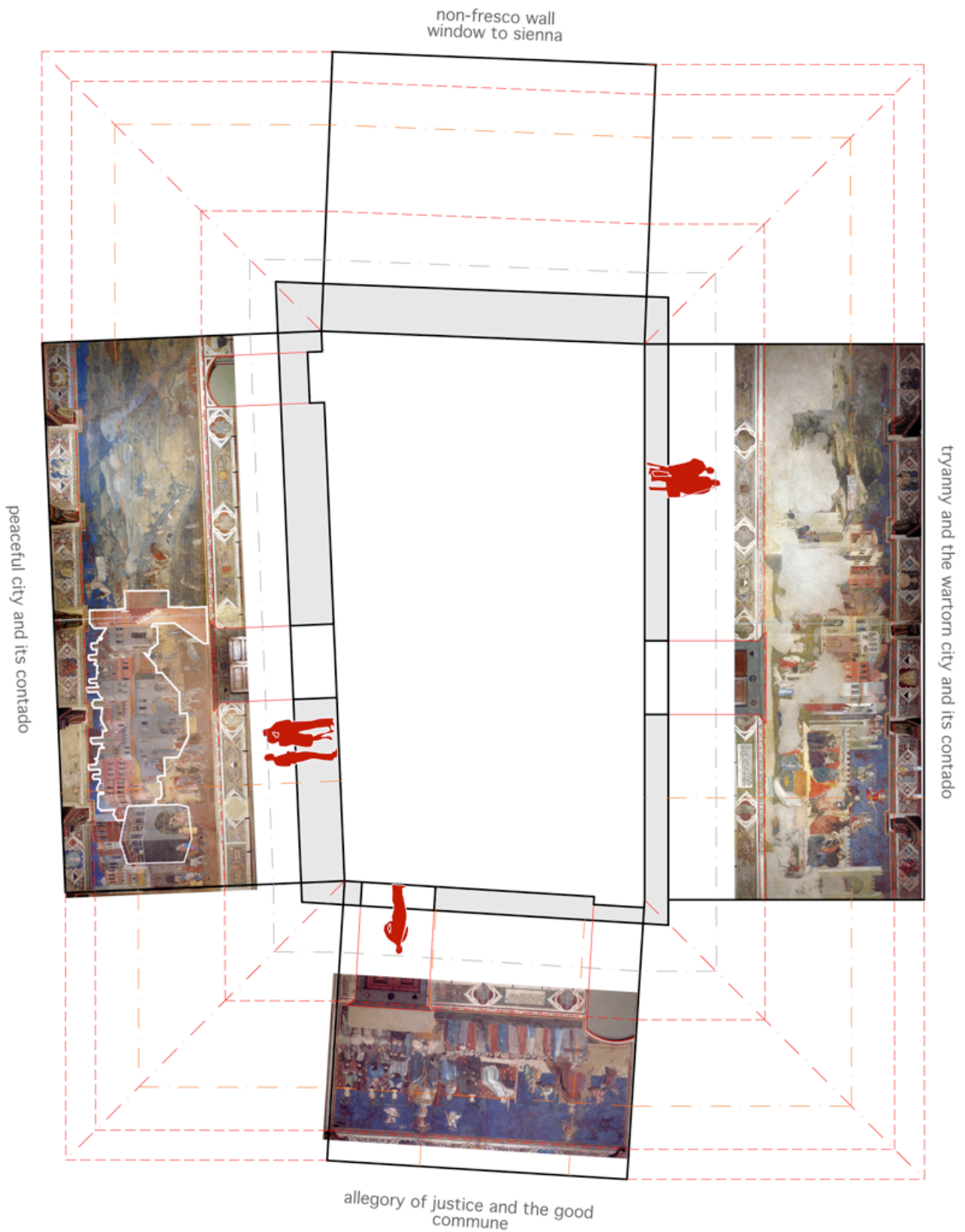


fig.01
Room Plan
Diagram:

Illustration
showing plan and
elevations of the
Sala della Pace.

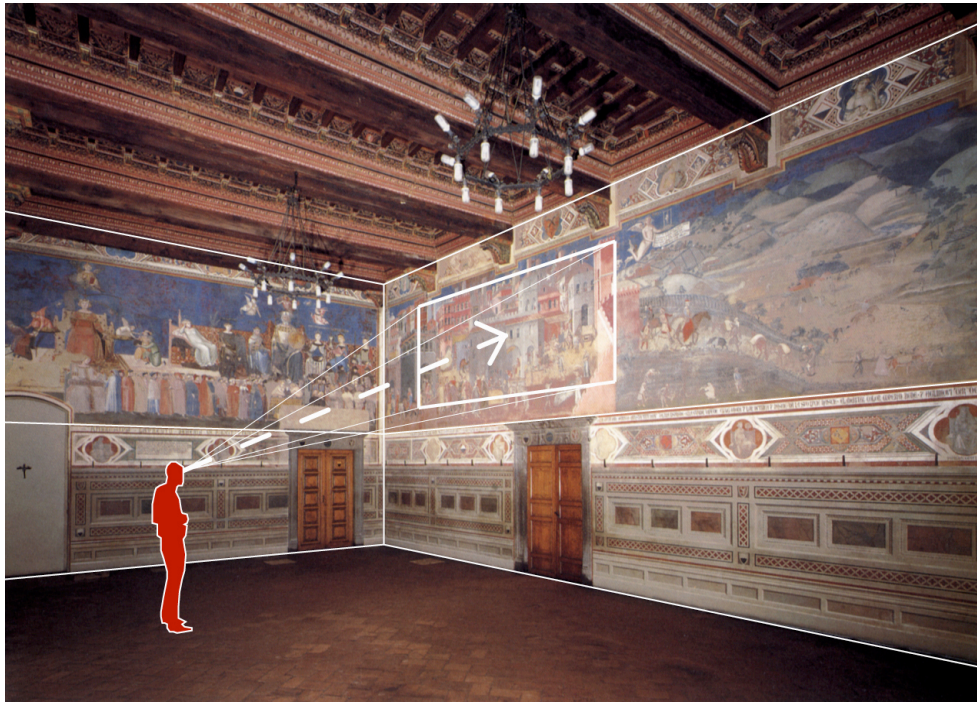


fig.02
Viewing
Subject
Diagram:

Illustration
highlighting the
misalignment of
the cityscape
rendering to the
picture plane.



fig.03
Viewing
Subject
Diagram:

Illustration
highlighting the
misalignment of
the cityscape
rendering to the
picture plane.



fig.04
Image
witnessed
from the
subject
position of
Peace:

Illustration
highlighting the
image witnessed
from the subject
position of peace,
and the alignment
of the cityscape
rendering to the
picture plane.



fig.05
Peace's View
of the
Peaceful City
Diagram:

Illustration
highlighting the
relationship
between the
subject position of
Peace and the
picture plane she
addresses.



fig.06
The
Communal
Council's View
Diagram:

Illustration
highlighting the
relationship
between the
subject position of
the communal
council and the
picture plane they
collectively
address.

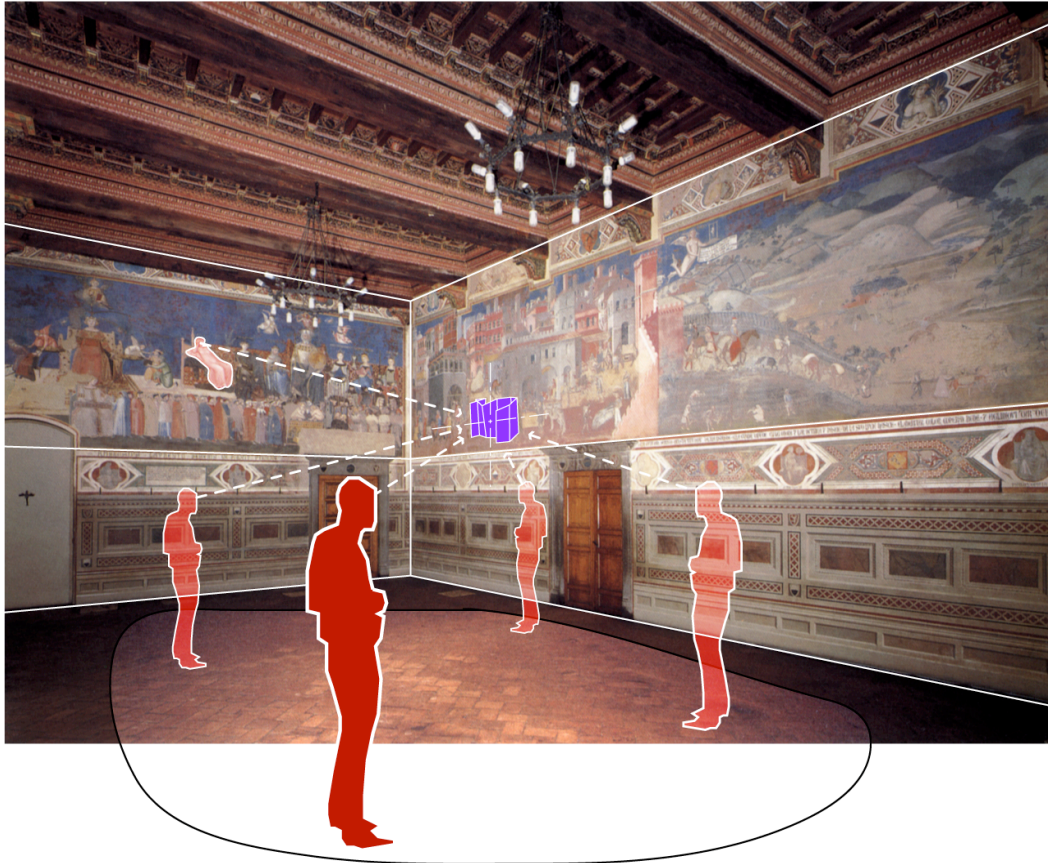


fig.07
The
broadened
view field
Diagram:

Illustration
highlighting the
several possible
viewing locations
within the
broadened view
field.

¹ For the development of linear perspective, see Robin Evans, 'Architectural Projection,' in Eve Blau & Edward Kaufman (eds), *Architecture and It's Image: Four Centuries of Architectural Representation Works from the Collection of the Canadian Centre for Architecture*, Montreal: Canadian Centre for Architecture, 1989, pp.24. Jonathan Craey, 'Techniques of the Observer: On Vision and Modernity in the Nineteenth Century,' Cambridge, Massachusetts, OCTOBER books - MIT Press, 1990. Alberto Perez-Gomez & Louise Pelletier, 'Architectural Representation and the Perspective Hinge,' Cambridge, Massachusetts: MIT Press, 2000. Martin Kemp, 'The Science of Art : Optical Themes in Western Art from Brunelleschi to Seurat,' London: Yale University Press, 1990. This statement intentionally precludes the effects of film upon the pre-disposition of the viewing subject. Jonathan Craey has observed the birth of the Modern viewing subject through the development and redefinition of apparatus' of vision in the Nineteenth Century. These dramatic changes, concerning both the technological and theoretical developments in the understanding and application of optics, effectively redefined the viewing subject as a disembodied and autonomous subject, separated from the act of image construction. Although it is undeniable that the relationship between the viewing subject and the moving image as witnessed in film differs from the relationship experienced between static images and viewing subjects, the fundamental nature of the camera as an image recording device, preconceives the existence and viewing position of the subject through its conception as a camera obscura. My interest in this essay concerns the relationship between static images, and temporal viewing subjects; not film.

² John White, 'Ambrogio Lorenzetti,' in *The Birth and Re-Birth of Pictorial Space*, Cambridge, Massachusetts, The Belknap Press of Harvard University Press, 1987, pp. 94.

³ I am appropriating the term sweet spot in reference to the acoustic design of concert halls and performance spaces. The acoustic engineering of these spaces attempts to create a zone in space - generally the central area in which the patrons sits - maximising the clarity and quality of the music reverberating, and refracting off the internal surfaces of the space. The interior shell of the concert hall is controlled and manipulated in order to maximise this zone, therefore increasing the area of perfect aural reception. In appropriating the terminology and concept of the sweet spot, I am attempting to similarly challenge the area in real space in which we receive and interpret spatial images, effectively broadening the space of visual reception. My point here is that we are no longer concerned with a singular point reduced to a two-dimensional plane. A further example of this phenomena, would be the sweet spot of baseball and cricket bats, and golf clubs. These sporting bats and clubs are highly engineered and refined, increasing the bat/club weight over a larger area in order to maximise the power transference from sportsman through bat/club. I am interested in challenging the nature of the viewpoint by critiquing, and redefining it in terms of the *view field*. The term 'field of view' infers the existence of an area in space to which objects are perceptible. Any objects that pass through this field are therefore able to be perceived. I am interested in inverting this relationship from 'field of view', to *view field*, where by I am proposing a space in which to perceive multiple-views rather than a static singular viewpoint.

⁴ Joseph Polzer, 'Ambrogio Lorenzetti's War and Peace Murals Revisited: Contributions to the Meaning of the Good Government Allegory,' *Artibus-et-Historiae*, 23, 4 (2002):63-105. White, 'Ambrogio Lorenzetti.' Jack Greenstein, 'The Vision of Peace: Meaning and Representation in Ambrogio Lorenzetti's Sala Della Pace Cityscapes,' *Art History*, 11, 4 (1988):492-510.

⁵ Gibbs, 'In Search of Ambrogio Lorenzetti's Allegory of Justice: Changes in the Frescoes in the Palazzo Pubblico,' p. 14.

⁶ Jane Bridgeman, 'Ambrogio Lorenzetti's Dancing 'Maidens',' *Apollo*, 133 (1991): 245-251. Bridgeman discusses at length the true gender of the ten dancing maidens. She believes them to not be female, as popularly believed, but rather travelling male entertainers. Bridgeman observes that this hypothesis can be exemplified in Lorenzetti's representation of the maidens.

Some maidens were depicted sporting 'potbellies', short hair, short dresses exposing ankles and legs, and flat chests. Collectively, these characteristics would not have been associated with medieval representations of femininity. See also C. Jean Campbell, 'The City's New Clothes: Ambrogio Lorenzetti and the Poetics of Peace,' *The Art Bullite*, 83, 2 (2001): 240-258. See also White, 'Ambrogio Lorenzetti.'

⁷ White, 'Ambrogio Lorenzetti,' p. 94. As White observes, "[l]ike all Giottoesque empirical perspective, the construction [of the painting] presupposes radiation from the centre".

⁸ E Castelnovo (ed), 'Ambrogio Lorenzetti: li Buon Govern,' Milan: Electra, 1995, pp. 393-397. The location of light emanation that I am proposing, exists in a location that has been irreparable damaged, perhaps hiding the truth forever.

⁹ White, 'Ambrogio Lorenzetti,' pp. 93-96.

¹⁰ Greenstein, 'The Vision of Peace: Meaning and Representation in Ambrogio Lorenzetti's Sala Della Pace Cityscapes,' p. 497.

¹¹ Greenstein, 'The Vision of Peace: Meaning and Representation in Ambrogio Lorenzetti's Sala Della Pace Cityscapes,' p. 497.

¹² Greenstein, 'The Vision of Peace: Meaning and Representation in Ambrogio Lorenzetti's Sala Della Pace Cityscapes,' p. 498.

¹³ Greenstein, 'The Vision of Peace: Meaning and Representation in Ambrogio Lorenzetti's Sala Della Pace Cityscapes,' p. 498.

¹⁴ There is some debate circulating in current literature concerning the correlation between these personifications, and their potential objects of gaze. For a detailed account of the debate, see Polzer, 'Ambrogio Lorenzetti's War and Peace Murals Revisited: Contributions to the Meaning of the Good Government Allegory,' pp. 70-74.

¹⁵ Ghiberti (ed), 'I Commentarii.' See also Polzer, 'Ambrogio Lorenzetti's War and Peace Murals Revisited: Contributions to the Meaning of the Good Government Allegory,' pp. 84-85. Southard, 'Ambrogio Lorenzetti's Frescoes in the Sala Della Pace: A Change of Names.'

¹⁶ R. van Marle, *The Development of the Italian Schools of Painting*, ii ed. (1924): 406.

¹⁷ Greenstein, 'The Vision of Peace: Meaning and Representation in Ambrogio Lorenzetti's Sala Della Pace Cityscapes,' pp. 492-493. Greenstein describes the contextual correlation between the representations of the idealised *duomo* and the *campanile*, to that of the Cathedral of Sienna. "The relation between the two cities is one of kinship, not image-likeness."

¹⁸ The term panoptic, refers to Jeremy Bentham's theory of power enacted through visual surveillance and control. See Miran Bozovic (ed), 'The Panopticon Writings,' New York: Verso, 1995. See also Fledges-Henning, 'The Pictorial Programme of the Sala Della Pace,' p. 155. Although the concept of a panoptic program had not yet been defined, there are numerous historical examples that exemplify the use of panoptic programming to instil power and control. My point here is to not infer that in any way that Lorenzetti was applying or directly using the panoptic definition as a generative idea in the representation of the tower/dungeon building form, rather that the conceptual intent of a panoptic programme was never the less a clear representational motif in the image.

¹⁹ John Macarthur, 'The Image as an Architectural Material,' in *Medium Cool: The South Atlantic Quarterly*, 100, 3 (2002):673-694.